

sp., at Tempe, Arizona, October 27, 1913, by Mr. H. M. Russell (No. 230).

Readily known from *purpuratus* and its allies by the coloration of the antennae and the enlarged fourth antennal segment. This group of species bears many points of resemblance to *Leptothrips*.

(To be continued.)

Notes on Cerambycidae (Coleoptera).

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The following notes represent original rearings and observations by the authors which have hitherto not been published in the various papers dealing with the members of the family Cerambycidae. All emergence records are under field conditions unless stated otherwise.

DERANCISTRUS TASLEI Buq.—Adults were reared from the dead dry branches of beech (*Fagus americana*), chestnut (*Castanea dentata*) and oak, collected at Harrisburg, Pennsylvania. This species seems to prefer the dead tops, although the branches lying on the ground often contain larvae.

TRAGOSOMA DEPSARIUM L. var. *HARRISI* Lec.—Adults were found in numbers at Endeavor, Pennsylvania, on July 30, ovipositing in the cracks of barked white pine (*Pinus strobus*) logs, at night.

EBURIA QUADRIGEMINATA Say—This species was found breeding in the hard outer shell of a partly decayed maple at Rockville, Pennsylvania.

ROMALEUM CORTIPHAGUS Craighead—Adults of this *Romaleum* which Dr. Craighead² described from the larva were reared from the outer bark of living white oak (*Quercus alba*) and chestnut oak (*Quercus prinus*) at Harrisburg, Pennsylvania. The work was observed also in the outer bark of living *Quercus muhlenbergii* at Columbus, Ohio.

¹ Authors' names arranged alphabetically.

² F. C. Craighead, North Amer. Cerambycid Larvae, Dom. of C., Dept. of Ag., Tech. Bull. 27.

ELAPHIDIQN MUCRONATUM Say—Reared from the dead branches of red maple (*Acer rubrum*) collected at Harrisburg, Pennsylvania.

ANEFLOMORPIIA SUBPUBESCENS Lec.—The work of this species is common in white oak (*Quercus alba*) seedlings in sections of Pennsylvania.

Mr. Chittenden³ has called attention to this insect, the larva of which makes small round holes in a straight line along the whole length of the burrow. Eventually the entire woody fiber is eaten. Before winter the infested seedling is pruned near the level of the ground, and the end of the burrow plugged shut with stringy frass. The winter is spent in the larval stage in the roots of the infested seedling.

PSEUDIBIDIQN UNICOLOR Rand.—This species was reared from the pruned branches of living walnut (*Juglans nigra*), beech (*Fagus americana*), hickory and oak at Hummelstown, Pennsylvania. The branches under observation were pruned usually at or near a node, and fell to the ground in the spring.

HETERACHTES QUADRIMACULATUS Feb.—Adults were reared from the dead branches of tulip poplar (*Liriodendron tulipifera*) collected at Harrisburg, Pennsylvania.

OBRIUM RUFULUM Gahan—The dead branches of ash are often infested with this species, although adults were reared from the bark of a dead black ash tree at Charter Oak, Pennsylvania.

STENOCORUS SCHAUMI Lec.—Inasmuch as no native larvae of this genus have been recorded, it might be advisable to give a few observations on the adults of this species.

During the summer of 1923 male and female adults of this insect, together with the variety *croceus* Leng., were collected on the bases of living ash trees in the vicinity of Columbus, Ohio.

Professor Hine stated that he had collected the same species in Ohio at the bases of ash trees.

STENOCORUS TRIVITTATUS Say—Although the adults of this species are common on the flowers of wild hydrangea (*Hydrangea arborescens*) and acer leaf viburnum (*Viburnum*

³ F. H. Chittenden, N. S. Div. Ent. Bull. 18.

acerrfolium) near Harrisburg, we have never been able to locate the breeding place.

GAUROTUS CYANIPENNIS Say—During early summer the adults oviposit in dying trees of *Juglans cinerea*, mulberry and wild cherry. The larvae feed beneath the bark upon the growing tissue, the greater number becoming full-grown by fall. At this time the majority of them leave the trees through holes which they chew in the bark. They drop to the ground beneath the tree and enter the soil to a depth of one to three inches, depending upon conditions, and construct cells in the earth by the movements of their bodies. The winter is spent by the larvae in these pupal cells, and in the spring pupation and transformation occur. The adults emerge the latter part of May or the fore part of June.

Pupae and newly-formed adults may be collected by digging beneath an infested tree at the right time in the spring.

ANTHOPHILAX ATTENUATUS Hald.—Adults of this species were reared May 8 from dead, partly decayed *Acer saccharum* collected at Charter Oak, Pennsylvania. The infested log was partly buried in a large flower pot and the pot then placed in the ground. Wire screen was arranged around the log to trap the adults. The larvae crawled from the log and entered the ground to pupate.

Adults were observed ovipositing on the base of a dead standing beech (*Fagus americana*) near Bathurst, New Brunswick, on June 16.

Larvae of this species have been dug up from time to time, and when placed on the floor they would crawl quickly from place to place. This is a rather unusual habit of *Cerambycid* larvae, although it might be true of many of the forms which go into the ground to pupate.

ANTHOPHILAX MALACHITICUS Hald.—The remains of an adult of this rare species were found in the stomach of a brook trout caught at Charter Oak, Pennsylvania, on June 20.

STRANGALIA SUBHAMATA Rand.—This species was reared from the dead wood of hemlock (*Tsuga canadensis*) collected at Inglenook, Pennsylvania.

LEPTURA EMARGINATA L.—Adults of this species were reared

from the dead wood of tulip poplar (*Liriodendron tulipifera*) and the dry outer shell of a dead hollow sour gum (*Nyssa sylvatica*) collected at Hummelstown, Pennsylvania.

OPHISTOMIS FAMELICA Newm.—An adult was reared from a dead yellow birch (*Betula lutca*) branch, collected at Manada Gap, Pennsylvania.

OPHISTOMIS ACUMINATA Oliv.—Reared from dead *Viburnum dentatum*, ninebark (*Opulaster opulifolius*) and *Alnus* collected at Chambersburg, Pennsylvania.

OPHISTOMIS LUTEICORNIS Fab.—Adults reared June 18 from dead *Viburnum dentatum* collected at Chambersburg, Pennsylvania.

HYLOTRUPES BAJALUS L.—The larvae of this species work in the well-seasoned wood of old frame structures. Pine and hemlock lumber was observed to be attacked by this insect.

A board in a floor of a house at Hummelstown, Pennsylvania, was damaged to such an extent that it had to be replaced.

The timbers in a small bridge over a stream near Inglenook, Pennsylvania, were infested with this insect, and the bridge had to be replaced long before the wood had started to decay.

SEMANOTUS LIGNEA Fab.—This species breeds commonly in dead juniper (*Juniperus virginiana*) in the vicinity of Hummelstown, Pennsylvania. At least a part of the adults mature in the fall, and pass the winter in their pupal cells. The pupal cells are made in the sapwood of the infested sticks, and mature adults have been taken from their cells the latter part of December.

ARHOPALUS FULMINANS Fab.—This species works in the trunks of dead oaks and chestnuts in the vicinity of Harrisburg, Pennsylvania. The pupal cells are made in the sapwood, although before pupation the larvae make openings through the thick bark and then return to the sapwood to transform.

XYLOTRECHUS QUADRIMACULATUS Hald.—This species prunes branches $\frac{1}{2}$ to 2 inches in diameter of beech (*Fagus Americana*), alder and birch throughout Pennsylvania. The small larvae prune the limbs by making a clean circular cut in the sapwood from directly under the thin bark to within a short

distance of the center, thus weakening the branches to such an extent that they are easily broken off by their own weight or by the wind.

In the vicinity of Harrisburg, Pennsylvania, the eggs are laid in crevices and in healed-over injuries on the branches, from the last week in May to the middle of June.

The eggs hatch in about six days, and the young larvae begin feeding in straight lines just beneath the bark, to points usually between two nodes. Here the young larvae, which are about .25 inch long, begin girdling, usually making one circle to complete the work. Limbs oftentimes break and fall while the larvae are completing the girdles; in this case the larvae drop to the ground without completing their work. A greater portion of the larvae, however, fall within the pruned branches, while almost as many remain in the stubs, where they complete their work. While only one larva is necessary to complete a girdle, it is not uncommon to find two or more larvae in a single stub in a girdled limb. After the girdle is completed, the larva continues to work close to the surface for a distance of two or four inches, then it bores deeper into the wood, making a gallery from six to twelve inches in length, always packing frass tightly in the gallery back of itself as it works ahead. At the end of the season the gallery is six to twelve inches long, the full-grown larva passing the winter in a cell at the end. About April, or during the first warm weather, the following year the larva constructs its pupal cell and makes an exit burrow to the outer bark. Pupation takes place about the last week in April or the first week in May, and at the end of twelve to fifteen days the adult emerges.

The adults emerge from the middle of May to the middle of June. Unlike the following species, these adults emerge through the side of the branch from the end of the burrow; the following species emerges at the point where the egg was laid.

(To be continued).

Imperial Entomological Conference.

A conference of the Imperial Entomologists of the British Empire is to be held at London beginning June 9 next. Mr. Arthur Gibson has been appointed to represent Canada.